What is claimed is:

- 1. An isolated polynucleotide comprising a polynucleotide sequence selected from the group consisting of:
- (a) a polynucleotide having at least a 70% identity to a polynucleotide encoding a polypeptide comprising amino acids of SEQ ID NO:2 or 4;
 - (b) a polynucleotide which is complementary to the polynucleotide of (a); and
- (c) a polynucleotide comprising at least 15 sequential bases of the polynucleotide of (a) or (b).
 - 2. The polynucleotide of Claim 1 wherein the polynucleotide is DNA.
 - 3. The polynucleotide of Claim 1 wherein the polynucleotide is RNA.
- 4. The polynucleotide of Claim 2 comprising the nucleotide sequence set forth in SEQ ID NO:1 or 3.
- 5. The polynucleotide of Claim 2 comprising nucleotide sequence set forth in SEQ ID NO:1 or 3.
- 6. The polynucleotide of Claim 2 which encodes a polypeptide comprising amino acid sequence of SEQ ID NO:2 or 4.
- 7. An isolated polynucleotide comprising a member selected from the group consisting of:
- (a) a polynucleotide having at least a 70% identity to a polynucleotide encoding the same mature polypeptide expressed by the ratA gene contained in NCIMB Deposit No. 40794;
 - (b) a polynucleotide complementary to the polynucleotide of (a); and
- (c) a polynucleotide comprising at least 15 bases of the polynucleotide of (a) or (b).
 - 8. A vector comprising the DNA of Claim 2.
 - 9. A host cell comprising the vector of Claim 8.
- 10. A process for producing a polypeptide comprising: expressing from the host cell of Claim 9 a polypeptide encoded by said DNA.
- 11. A process for producing a cell which expresses a polypeptide comprising transforming or transfecting the cell with the vector of Claim 8 such that the cell expresses the polypeptide encoded by the cDNA contained in the vector.
- 12. A process for producing a ratA polypeptide or fragment comprising culturing a host of claim 9 under conditions sufficient for the production of said polypeptide or fragment.



- 13. A polypeptide comprising an amino acid sequence which is at least 70% identical to amino acid sequence of SEQ ID NO:2 or 4.
- 14. A polypeptide comprising an amino acid sequence as set forth in SEQ ID NO:2 or 4.
 - 15. An antibody against the polypeptide of claim 13.
 - 16. An antagonist which inhibits the activity of the polypeptide of claim 13.
- 17. A method for the treatment of an individual having need of ratA comprising: administering to the individual a therapeutically effective amount of the polypeptide of claim 13.
- 18. The method of Claim 16 wherein said therapeutically effective amount of the polypeptide is administered by providing to the individual DNA encoding said polypeptide and expressing said polypeptide *in vivo*.
- 19. A method for the treatment of an individual having need to inhibit ratA polypeptide comprising: administering to the individual a therapeutically effective amount of the antagonist of Claim 16.
- 20. A process for diagnosing a disease related to expression of the polypeptide of claim 13 comprising:

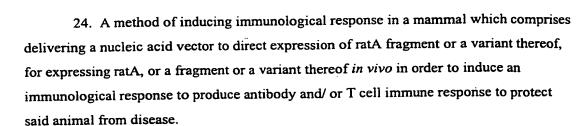
determining a nucleic acid sequence encoding said polypeptide.

- 21. A diagnostic process comprising:
 analyzing for the presence of the polypeptide of claim 13 in a sample derived from a
 host.
- 22. A method for identifying compounds which interact with and inhibit or activate an activity of the polypeptide of claim 13 comprising:

contacting a composition comprising the polypeptide with the compound to be screened under conditions to permit interaction between the compound and the polypeptide to assess the interaction of a compound, such interaction being associated with a second component capable of providing a detectable signal in response to the interaction of the polypeptide with the compound;

and determining whether the compound interacts with and activates or inhibits an activity of the polypetide by detecting the presence or absence of a signal generated from the interaction of the compound with the polypeptide.

23. A method for inducing an immunological response in a mammal which comprises inoculating the mammal with ratA, or a fragment or variant thereof, adequate to produce antibody and/ or T cell immune response to protect said animal from disease.



- 25. An immunological composition comprising a DNA which codes for and expresses a ratA polynucleotide or protein coded therefrom which, when introduced into a mammal, induces an immunological response in the mammal to a given ratA polynucleotide or protein coded therefrom.
- 26. A polynucleotide consisting essentially of a DNA sequence obtainable by screening an appropriate library containing the complete gene for a polynucleotide sequence set forth in SEQ ID NO:1 or 3 under stringent hybridization conditions with a probe having the sequence of said polynucleotide sequence set forth in SEQ ID NO:1 or 3 or a fragment thereof; and isolating said DNA sequence.